

TABLE NO

--	--	--

MULTIMEDIA



UNIVERSITY

STUDENT ID

--	--	--	--	--	--	--	--	--	--

SUBJECT CODE

---

# MULTIMEDIA UNIVERSITY

## SUPPLEMENTARY EXAMINATION

TRIMESTER 1, 2015/2016

### TSE3351/TSE3571 – SOFTWARE EVOLUTION AND MAINTENANCE

( All sections / Groups )

17 NOV 2015  
2.30 PM – 4.30 PM  
(2 HOURS)

Examiner 1 Signature: \_\_\_\_\_

Examiner 2 Signature: \_\_\_\_\_

Examiner 3 Signature: \_\_\_\_\_

Question	Mark
1	
2	
3	
4	
Total	

---

### INSTRUCTIONS TO STUDENT

1. This Question paper consists of 9 printed pages (including cover page) with 4 Questions only.
2. Attempt **ALL FOUR** questions. All questions carry equal marks (15 marks). The distribution of the marks for each question is given.
3. Please write all your answers **CLEARLY** in the specific answer box provided for each question. Submit this question paper at the end of the examination.

**Attempt all FOUR questions.**

**QUESTION 1 [10 + 3 + 2 marks]**

- a) Commercial Off-The-Shelf (COTS) software development differs from traditional in-house software development. Explain the FIVE issues that need to be considered when developing a COTS product. [10]

**Continued...**

- b) List THREE objectives of software configuration management. [3]

- c) You are asked to make a change to a system that affects the design and source code of the system but leaves its *functional specification unchanged*. This can be any of the four types of maintenance (corrective, adaptive, perfective and preventive) EXCEPT one. Identify the exception and justify your answer. [2]

Continued...

**QUESTION 2 [8 + 3 + 4 marks]**

- a) Discuss FIVE different ways of changing the production from one stage to another stage during the CSS life cycle model. Hint: CSS means Closed Source Software.  
[8]

**Continued...**

- b) Explain THREE differences between Closed Source Software (CSS) systems and Free and Open Source Software (FOSS) systems. [3]

- c) What are the advantages of the quick fix model? Why is it still used? [2 + 2]

**Continued...**

**QUESTION 3 [5 + 5 + 5 marks]**

- a) What is reverse engineering? Why do we need reverse engineering? Explain THREE issues of reverse engineering. [1 + 1 + 3]

- b) Explain the FIVE types of information that reverse engineering intended to recover about the software systems. [5]

**Continued...**

- c) Discuss FIVE categories of solution for legacy software. (Hint: A legacy system refers to any information system that significantly resists modification and evolution to meet new and constantly changing business requirements.) [5]

Continued...

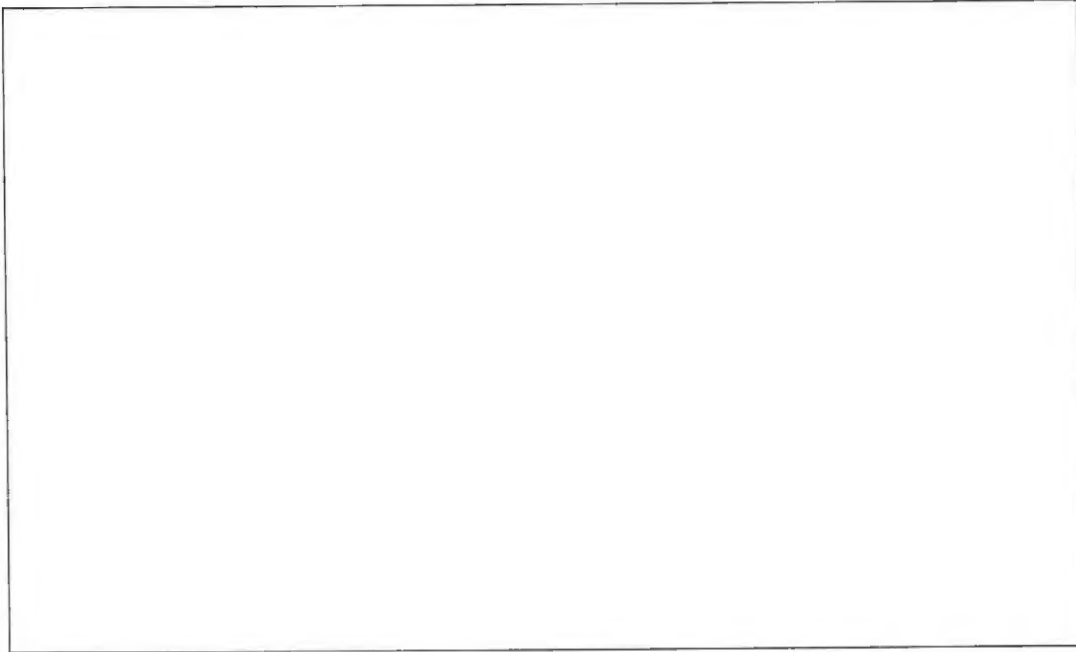
**QUESTION 4 [5 + 6 + 4 marks]**

- a) What is meant by program comprehension or program understanding? Explain how to understand a function of “withdraw funds”. How is a programmer said to have understood or comprehended a program? [2 + 2 + 1]

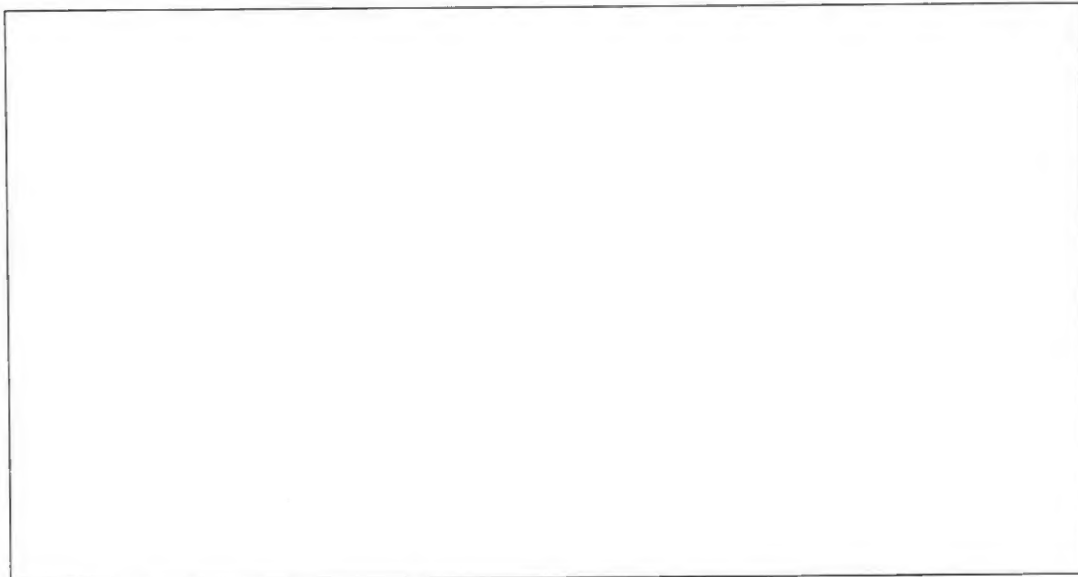
**Continued...**



- b) Explain the term reuse with respect to software development and maintenance. Illustrate FOUR types of reusable artifacts with example. (Hint: Artifact refers to a software product that can be of the following types: document that can be subdivided into textual and graphical documents, component off-the-shelf products, and object code components. Textual documents include source code listings, plans, design, and requirements specifications.) [2 + 4]



- c) Explain the difference between reverse engineering and reuse engineering. [4]



**End of Paper**